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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|-----------------------|-------------------------|------------------|
| 10/620,512 | 07/16/2003 | Raymond W. Blasingame | H0004037 (1139.1128101) | 8497 |

22913 7590 03/21/2007

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| EXAMINER |
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SANGHAVI, HEMANG

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| ART UNIT | PAPER NUMBER |
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2874

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 03/21/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/620,512 | Applicant(s) BLASINGAME ET AL. | |
| | Examiner Hemang Sanghavi | Art Unit 2874 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 30-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18, 30-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

The declaration filed on December 28, 2006 under 37 CFR 1.131 is sufficient to overcome the Okochi et al (US PUB 2004/0252952) and Aronson et al (US PUB 2004/0101258) references. The previously applied rejection of claims 1-18 and 10-34 has been withdrawn. The following rejections are applied in light of new references and further consideration.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 30 is rejected under 35 U.S.C. 102(b) as being anticipated by Bennett (US 5,692,083).

Bennett discloses an optical device comprising a sleeve (101); a window situated at a first end of the sleeve; and a lens (102) situated at a surface of the window opposite surface of the window proximate to the sleeve. See Fig. 1.

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Claim 30 is rejected under 35 U.S.C. 102(e) as being anticipated by Kuhn et al (US 6,536,959).

Kuhn et al discloses a coupling configuration for connecting an optical fiber comprising a sleeve (1); a window (12), which stops the optical fiber inserted in the sleeve, situated at a first end of the sleeve; and a lens (16) situated at a surface of the window opposite surface of the window proximate to the sleeve. See Fig. 4. Kuhn et al discloses examples of a ball and spherical lens which could be glass or plastic.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okochi et al (US 5,533,159).

Okochi et al discloses a module for coupling an optical fiber comprising:

an optical fiber receiving structure or a housing (11);

a transparent film (25) attached to the receiving structure (11); and

wherein the transparent film has an index of refraction approximately the same as the index of refraction of a core of an optical fiber. See lines 51-55 of column 5.

As to claims 1 and 10, Okochi et al fails to state that the transparent film stops the fiber in the optical fiber receiving structure.

However, in lines 61-66 of column 6, Okochi et al states that the fiber ferrule 4 is pushed into the housing and the transparent film adheres closely to the end of the optical fiber. As can be seen in Fig. 2, the transparent film stops the optical fiber after maximum bending and it can be move in further.

From collective teachings of Okochi et al, the ordinary artisan would have found it obvious at the time of the invention to construed the transparent film as a fiber stop or means for stopping the received optical fiber, since the fiber can not be proceed further in the optical receiving structure after contacting the transparent film, hence completing the optical fiber coupling assembly.

As to claims 2 and 11, the transparent film of Okochi et al can be construed as a window as it is made from glass and provides transition path for light to travel.

As to claims 3 and 12, Okochi et al discloses that the transparent film is made from a glass material.

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As to claims 4 and 13, Okochi et al discloses that the transparent film can be made from a plastic material. See lines 52-55 of column 5.

Claims 1, 5-10, 14-18, and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuhn et al (US 6,536,959).

Kuhn et al, as discussed above, discloses all the limitations of claims 1, 5-10, 14-18, and 31-34, except fails to state that the fiber stop has an index of refraction approximately the same as the index of refraction of the core of the optical fiber.

However, it is well known in the art to utilize the same refractive indices for the optics to reduce any reflection for light traveling through the optics. It is certainly desirable in the coupling configuration of Kuhn et al to reduce coupling loss/back reflection between the optical fiber and an optoelectronic device.

From well known techniques, the ordinary artisan would have found it obvious at the time of the invention to make the index of refraction of the lens (fiber stop) to be equal to the core of the optical fiber for the purpose of reducing the coupling loss and back reflection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Schlafer discloses a coupler including a window and a molded lens. Shinohara et al discloses a coupler including a matching index film at the end of the optical fiber in the coupling holder.

Billet et al discloses an optical interconnection module including a fiber stop and a lens. Modavis et al discloses a coupler including an insert having an index of


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refraction matching that of an optical fiber. However these references are not available as prior art due to their publication dates and applicant's submitted declaration under 37 CFR 1.131.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hemang Sanghavi whose telephone number is (571) 272-9955. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Hemang Sanghavi
Primary Examiner
Art Unit 2874

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